AMENDMENTS TO THE CLAIMS

1. (Currently amended) A magnesium-containing, hydrogen-storing material that contains an organometallic compound of the metals Zr or V which displays a nanocrystalline structure, as a catalyst for hydrating or dehydrating the same.

2. (Canceled)

3. (Previously presented) A magnesium-containing material according to claim 1 wherein the material displays a nanocrystalline structure.

4. (Canceled)

5. (Previously presented) A magnesium-containing material according to claim 1, wherein the organometallic compound content lies in the region between 0.005 mol% and 50 mol%.

6. (Previously presented) A magnesium-containing material according to claim 5, wherein the organometallic compound content lies in the region between 0.005 mol% and 20 mol%.

7. (Previously presented) A method for the manufacture of a magnesium-containing material according to claim 1, wherein the magnesium-containing material containing the organometallic compound is subjected to a mechanical grinding process.

8. (Previously presented) A method according to claim 7, wherein the duration of the grinding process is 1 minute to 200 hours.

9. (Previously presented) A method according to claim 8, wherein the duration of the grinding process lies in the region from 20 hours to 100 hours.

10. (Previously presented) A method according to claim 7 wherein the grinding process is performed in an inert gas atmosphere.

11. (Previously presented) A method according to claim 10, wherein the inert gas is argon.

12. (Previously presented) A method according to claim 7 wherein the grinding process is performed with the addition of an organic solvent.

13. (Previously presented) A magnesium-containing material according to claim 2, wherein the material displays a nanocrystalline structure.

14. (Previously presented) A magnesium-containing material according to claim 2, wherein the organometallic compound content lies in the region between 0.005 mol% and 50 mol%.

15. (Previously presented) A magnesium-containing material according to claim 4, wherein the organometallic compound content lies in the region between 0.005 mol% and 50 mol%.

16. (Previously presented) A method according to claim 9, wherein the grinding process is performed in an inert gas atmosphere.

17. (Previously presented) A method according to claim 8, wherein the grinding process is performed with the addition of an organic solvent.

18. (Previously presented) A method according to claim 9, wherein the grinding process is performed with the addition of an organic solvent.

19. (Previously presented) A method according to claim 10, wherein the grinding process is performed with the addition of an organic solvent.

20. (Previously presented) A method according to claim 11, wherein the grinding process is performed with the addition of an organic solvent.